The effect of social isolation on psychological stress and gambling in the COVID-19 pandemic

Psychological stress and gambling in the COVID-19 pandemic

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Abstract

Aim: In our study, it was aimed to investigate the effects of social isolation and social distance measures taken during the COVID-19 pandemic process on psychological stress and gambling habits.

Materials and Methods: Two hundred and three people who were contacted via e-mail after creating an online questionnaire were included in the study. A structured online questionnaire including a sociodemographic information form, the South Oaks Gambling Screening Test (SOKK), Kessler Psychological Distress Scale (K10-PDS) and Depression Anxiety Stress Scale (DASS-21) was applied to all participants by the researchers.

Results: The average age of the 203 participants who were included in the study was found to be 37.64 (± 6.70), 62.1% were men and 37.9% were women. The overall SOKK score was 1.05 (± 2.03), the total K10-PSS score was 21.96 (± 10.51), the mean DASS-D, DASS-A, DASS-S scores were 3.49 (± 3.41), 1.99 (± 2.26), 4.04 (± 3.44), respectively. No statistically significant correlation was found between the total SOKK score and the DASS-A, DASS-S, DASS-D and K10-PSS scores. For men compared to women, for those who buy digital money (Bitcoin, Litecoin, Ripple, etc.) compared to those who do not gamble at least once in their lifetime, and those who have not gambled at least 1 time in the last month, the total SOKK score was statistically significantly higher (p<0.001, p<0.01, p<0.001 and p<0.01, respectively). The SOKK total score was found to be statistically significantly higher in men than women who gambled at least once in their lifetime, and those who did not apply to psychiatry before (p<0.001 and p<0.05, respectively).

Discussion: In this study, it has been shown that social isolation measures taken during the pandemic process can increase psychological distress in people. Besides this, gambling behavior may increase, especially in men, in persons who have bought digital money before and those who have gambled at least once in their life.

Keywords

COVID-19; Social isolation; Gambling disorder

Introduction

Nowadays, the world is under the influence of the novel coronavirus disease 2019 (COVID-19) pandemic, which was first reported in Wuhan, China in December 2019, and the pandemic was declared by the World Health Organization (WHO) on March 11, 2020. The first case of COVID-19 in our country was reported on March 11, 2020 [1]. In the pandemic period, many measures are taken to reduce the rate of spread of infection. Social isolation and social distancing measures, which are one of these measures, are measures to increase the physical distance between people in daily life in order to prevent the spread of infection from infected people to others. In addition to comprehensive measures such as closures of schools and workplaces, transition to working from home or flexible work hours, cancellation of community organizations (concert, match, etc.), closing borders, travel restrictions, there are also personal measures such as avoiding physical contact as much as possible, keeping a distance of 1-2 meters away from people, not being in crowded places and even not leaving the house unless necessary [2]. With these measures, major changes in activities of daily routine and weakening of social support systems may cause people to become isolated and develop anxiety and depression [1].

The usual psychological reactions to pandemics can be at a healthy level or can reach the extent of disease. Anxiety, depression, fear, psychological stress, sleep problems are observed during the COVID-19 pandemic [3, 4]. According to the study by Wang et al. on the general population, it was found that the rate of moderate to severe depressive symptoms was 16.5%, the rate of moderate anxiety symptoms was 28.8%, and the rate of moderate stress was 8.1%. Again, the results of this study showed that female gender, being a student, and having COVID-19 symptoms were associated with high levels of anxiety and depression, while reaching the right information and implementing protective measures (washing hands, etc.) reduced these effects [5].

Gambling behavior is defined as staking something else in the hope of achieving a higher profit. Gambling behavior can be in the form of social gambling, where gambling takes a limited period of time and losses are at an acceptable level, or it may be in the form of problematic gambling phase, where gambling becomes continuous and repetitive [6]. Pathological gambling is a continuous and repetitive inappropriate gambling behavior, although it causes significant losses in social, professional, and family life. The need to play with gradually increasing amounts, the urge to play again to recover what was lost, and the illegal acquisition of money for gambling are the basic characteristics of pathological gambling behavior [7]. Gambling, which is considered a leisure and recreational activity in almost all cultures, can lead to personal and social problems when it reaches a pathological level. In addition to the opportunities provided by the technological developments, which are diversifying and increasing day by day, virtual environments provided by the easier online accessibility cause an increase in online gambling games, the spread of internet gambling, and the growth of the problem [8]. Due to the recent ongoing pandemic period, the increased use of the Internet and social media along with the longer time people spend at home, may

have also affected online gambling.

The aim of our study was to investigate the effects of social isolation and social distancing measures taken during the COVID-19 pandemic on psychological stress and gambling habits.

Material and Methods

After an online questionnaire has been created, a total of 203 individuals between the ages of 18-65 years who accepted to respond to the questionnaire, who were literate enough to respond to the questionnaire, who were not mentally retarded and did not have neurological diseases to an extent to affect cognitive functions were included in the study by reaching via e-mail. An online questionnaire structured by the researchers was administered to all participants. The first part of the questionnaire consisted of questions about sociodemographic characteristics. Subsequently, it included the South Oaks Gambling Screen (SOGS), the Kessler Psychological Distress Scale (K10-PDS), and the short form of the Depression Anxiety Stress Scale (DASS-21). Individuals who were not in the age range of 18-65 years and had a neurological disease to an extent to affect cognitive functions were not included in the study.

The South Oaks Gambling Screen (SOGS): This screening test developed to measure the severity of gambling has been used in many studies [9,10]. In the original form of the screening test, those who score 5 and above over 20 points are classified as pathological gamblers, while the three items thought to be non-functional due to cultural differences were replaced by two items in a study conducted in the Turkish sample and it was reported that it would be appropriate to classify those who score 8 and above over 19 points as pathological gamblers [11, 12].

The Kessler Psychological Distress Scale (K10-PDS): It was developed by Kessler et al. [13]. The K10-PDS measures the frequency with which the participants experience symptoms such as nervousness, hopelessness, sadness, worthlessness, and fatigue. It consists of 10 questions about non-specific psychological distress and aims to measure the current level of depressive symptoms experienced by a person in the four weeks before the interview. Response choices are based on a five-point Likert-type scale ranging from 1 (none of the time) to 5 (all of the time). The lowest score that can be obtained from the scale is 10 points, while the highest score is 50 points. High scores indicate more psychological distress [13].

The Depression Anxiety Stress Scale-short form (DASS-21): The long version of the scale (DASS-42) was first developed by Lovibond [14]. The Turkish adaptation, reliability, and validity study of the short form (DASS 21) was performed by Yilmaz et al. [15]. The DASS-21 consists of seven statements in three subscales, a total of 21 statements, aiming to measure the levels of depression, anxiety, and stress. The depression subscale aims to measure emotions and states such as pessimism, laxity and difficulty in starting a job, dispiritedness, sadness, worthlessness, unhappiness and unwillingness, a feeling that life is meaningless. The anxiety subscale includes the evaluation of emotions and states such as fear, panic, and anxiety, as well as the body's reactions to these. The stress

subscale aims to measure emotions and states such as unable to relax, difficulty in relaxing, irritability, anger, impatience, and intolerance [15].

Statistical Analysis

SPSS (Statistical Package for Social Sciences) software package version 15.0 was used for statistical analysis in the evaluation of the data obtained from the study. In addition to descriptive statistical methods (mean, standard deviation, median, minimum, maximum, frequency, percentage, etc.), the Mann-Whitney U test was used for comparisons of two groups, and the Kruskal-Wallis test was used for comparisons of three or more groups. Spearman's correlation test was used for correlation analysis. The results were evaluated at a 95% confidence interval and the level of significance was set at p <0.05.

The ethics committee approval for the study was obtained from the Non-Interventional Clinical Research Ethics Committee of Sakarya University (dated 14.04.2020 and numbered 71522473/050.01.04/166).

Results

The mean age of 203 participants included in the study was 37.64 (± 6.70) years, and 62.1% of the participants were male and 37.9% were female. Representatives were in the first place (23.2%) in terms of the professional group. While the participants were mostly working from home during the pandemic (39.9%), the rate of those who were actively working was 13.3%. None of them was diagnosed with COVID-19 during the pandemic. The number of individuals whose relatives were diagnosed with COVID-19 was 22 (10.8%), and the number of those who knew someone who died of COVID-19 during the epidemic was 26 (12.8%). The number of those who received professional mental health support during the pandemic was 32 (15.8%). One hundred sixty (78.8%) of the participants stated that there was an increase in their social media use during the epidemic. The rate of alcohol users was 56.7% and the rate of those whose alcohol use frequency increased during the epidemic was 10.8%. The rate of smokers was 47.3%, and the rate of those whose smoking frequency increased during the epidemic was 6.9%. The number of those who have been previously admitted to psychiatry was 65 (32%), and the number of those with a diagnosed psychiatric disease was 21 (10.3%). Among the participants, 15.8% had purchased cryptocurrency (Bitcoin, Litecoin, Ripple etc.). The number of those who have gambled at least once in their lifetime was 143 (70.4%) and the number of those who have gambled at least once in the last month was 21 (10.3%). Of the participants, 36% stated that at least one of their relatives was gambling (Table 1).

The scores obtained from the scales administered to the patients are shown in Table 2. In the South Oaks Gambling Screen (SOGS), a total score of 8 points or above was evaluated as a "major pathological gambler", according to which, 6 participants (3%) were pathological gamblers. The mean total SOGS score was 1.05 (± 2.03). The mean SOGS scores of depression, anxiety, and stress were 3.49 (± 3.41), 1.99 (± 2.26), and 4.04 (± 3.44), respectively. The mean K10-PDS total score was 21.96 (± 10.51) (Table 2).

There was no statistically significant correlation between total SOGS score and DASS-A, DASS-S, DASS-D, and K10-PSS scores (p> 0.05).

The comparison of the total SOGS scores by the characteristics of the participants is shown in Table 3. When the total SOGS scores were compared by the characteristics of the participants, the total SOGS score was statistically significantly higher in male participants than female participants, those who have purchased cryptocurrency (Bitcoin, Litecoin, Ripple, etc.) than those who have not, and in those who have gambled at least once in the last 1 month than those who have not (p<0.001,

Table 1. Sociodemographic characteristics of participants

	mean/n	sd/%
age	37.64	6.70
gender (M/F)	126/77	62.1/37.9
marital status (single/married)	45/158	22.2/77.8
number of children	1.06 (median = 2)	0.92 (range = 0-3)
0	68	33.5
1	65	32.0
2	59	29.1
3	11	5.4
place of residence		
metropolitan	138	68.0
other provinces	30	14.8
districts and smaller settlements	35	17.2
educational status		
secondary school	1	0.5
high school	16	7.9
university	186	91.6
profession		
representative	47	23.2
teacher/lecturer	28	13.8
engineer	22	10.8
bank/finance/accounting	12	5.9
marketing/sales	11	5.4
physician/dentist	11	5.4
housewife	7	3.4
student	2	1.0
unemployed	2	1.0
other	61	30.0
monthly income		
below minimum wage	6	3.0
minimum wage	25	12.3
two times the minimum wage	94	46.3
three times the minimum wage and more	78	38.4
employment status during the pandemic		
unemployed	62	30.5
working from home	81	39.9
flexible working	33	16.3
actively working (in previous working program)	27	13.3
being diagnosed with COVID-19 during the pandemic	0	0.0
presence of a relative diagnosed with COVID-19 during the pandemic	22	10.8
knowing someone died of COVID-19 during the pandemic	26	12.8
receiving professional support for mental health during the pandemic	32	15.8
any increase in the social media use during the epidemic	160	78.8

alcohol use		
no	88	43.3
still using, no change in frequency during the pandemic	56	27.6
still using, decreased frequency during the pandemic	37	18.2
still using, increased frequency during the pandemic	22	10.8
smoking		
no	107	52.7
still using, no change in frequency during the pandemic	55	27.1
still using, decreased frequency during the pandemic	27	13.3
still using, increased frequency during the pandemic	14	6.9
substance abuse		
no	201	99.0
still using, no change in frequency during the pandemic	1	0.5
still using, decreased frequency during the pandemic	1	0.5
still using, increased frequency during the pandemic	0	0.0
previous psychiatric admission	65	32.0
presence of a diagnosed psychiatric illness	21	10.3
purchase of cryptocurrency (Bitcoin, Litecoin, Ripple etc.)	32	15.8
gambling at least once in a lifetime	143	70.4
gambling at least once in the last month	21	10.3
number of gambling in the last month	1.22 (median = 0)	8.00 (range = 0-100)
presence of a gambler relative	73	36.0

Table 2. Scale scores

	mean	sd	median	min	max
total SOGS	1.05	2.03	0.00	0.00	13.00
DASS-D	3.49	3.41	3.00	0.00	15.00
DASS-A	1.99	2.26	1.00	0.00	13.00
DASS-S	4.04	3.44	4.00	0.00	15.00
total K10-PDS	21.96	10.51	19.00	10.00	50.00

SOGS: South Oaks Gambling Screen, DASS-A: Depression Anxiety Stress Scale - Anxiety, DASS-S: Depression Anxiety Stress Scale - Stress, DASS-D: Depression Anxiety Stress Scale - Depression, K10-PSD: Kessler Psychological Distress Scale.

Table 3. Comparison of total SOGS scores by characteristics of participants

	SOGS			p
	mean	sd	median	
gender				
male	1.52	2.38	0.00	0.001
female	0.29	0.79	0.00	
marital status				
single	0.91	1.59	0.00	0.741
married	1.09	2.14	0.00	
number of children				
0	0.91	1.52	0.00	
1	0.83	1.59	0.00	0.803
2	1.53	2.87	0.00	
3	0.64	1.21	0.00	
place of residence				
metropolitan	1.07	2.07	0.00	
other provinces	0.83	1.26	0.50	0.663
districts and smaller settlements	1.14	2.40	0.00	
educational status				
secondary school - high school	1.12	1.50	0.00	0.384
university	1.04	2.07	0.00	
monthly income				
below minimum wage	0.17	0.41	0.00	
minimum wage	1.04	1.77	0.00	
two times the minimum wage	1.16	2.39	0.00	-
three times the minimum wage and more	0.99	1.67	0.00	
employment status during the pandemic				
unemployed	0.95	2.31	0.00	
working from home	1.15	1.94	0.00	
flexible working	1.27	2.17	0.00	0.343
actively working (in previous working program)	0.70	1.32	0.00	
any increase in the social media use during the epidemic				
no	0.91	2.20	0.00	0.489
yes	1.09	1.98	0.00	
alcohol use				
no	0.75	1.91	0.00	
still using, no change in frequency during the pandemic	1.07	1.98	0.00	
still using, decreased frequency during the pandemic	1.65	2.32	0.00	0.079
still using, increased frequency during the pandemic	1.18	1.97	0.00	
smoking				
no	0.87	1.85	0.00	
still using, no change in frequency during the pandemic	1.05	1.84	0.00	
still using, decreased frequency during the pandemic	1.37	2.63	0.00	0.515
still using, increased frequency during the pandemic	1.79	2.61	0.50	
substance abuse				
no	1.02	1.99	0.00	
still using, no change in frequency during the pandemic	0.00	-	0.00	
still using, decreased frequency during the pandemic	7.00	-	7.00	-
still using, increased frequency during the pandemic	-	-	-	
previous psychiatric admission				
no	1.17	2.21	0.00	0.445
yes	0.80	1.54	0.00	
a diagnosed psychiatric illness				
no	1.04	2.01	0.00	0.780
yes	1.14	2.24	0.00	
purchase of cryptocurrency (Bitcoin, Litecoin, Ripple etc.)				
no	0.91	1.96	0.00	0.004
yes	1.78	2.24	1.00	
gambling at least once in a lifetime				
no	0.13	0.34	0.00	0.001
yes	1.43	2.30	0.00	
gambling at least once in the last month				
no	0.89	1.82	0.00	0.005
yes	2.43	3.03	1.00	
presence of a gambler relative				
no	0.85	1.66	0.00	0.163
yes	1.40	2.53	0.00	

SOGS: South Oaks Gambling Screen

p<0.01, p<0.001 ve p<0.01, respectively).There was no statistically significant difference in terms of total SOGS scores by age, marital status, number of children, place of residence, education, working status during the epidemic, whether there was an increase in social media use during the epidemic, alcohol use status, smoking status, previous admission to psychiatry status, presence of a diagnosed psychiatric disease and presence of a gambler relative (p> 0.05) (Table 3).

When the total SOGS scores were compared by the characteristics of the participants who have gambled at least once in their lifetime, the total SOGS score was found to be statistically significantly higher in male participants than female participants, and in those who have not previously admitted to psychiatry than those who have admitted (p <0.001 and p <0.05, respectively). There was no statistically significant difference in terms of total SOGS scores by age, marital status, number of children, place of residence, educational status, working status during the epidemic, whether there was an increase in the social media use during the epidemic, alcohol use status, smoking status, presence of a diagnosed psychiatric disease, purchase of cryptocurrency (Bitcoin, Litecoin, Ripple, etc.), gambling at least once in the last 1 month, and the presence of a gambler relative (p> 0.05)

Discussion

In our study conducted to investigate the effects of social isolation and social distancing measures taken during the COVID-19 pandemic period on psychological stress and gambling habits, the mean total SOGS score was 1.05 (± 2.03), the mean total K10-PSO score was 21.96 (± 10.51), and the mean DASS-D, DASS-A, DASS-S scores were 3.49 (± 3.41), 1.99 (± 2.26), 4.04 (± 3.44), respectively. There was no statistically significant correlation between total SOGS score and DASS-A, DASS-S, DASS-D, and K10-PSS scores. The total SOGS score was statistically significantly higher in male participants than female participants, those who have purchased cryptocurrency (Bitcoin, Litecoin, Ripple, etc.) than those who have not, those who have gambled at least once in their lifetime than those who have not, and in those who have gambled at least once in the last month than those who have not. In addition, the total SOGS score was found to be statistically significantly higher in male participants who have gambled at least once in their lifetime than female participants, and in those who have not previously admitted to psychiatry than those who have admitted.

There are numerous studies in the literature on the negative effects of pandemic periods and measures such as quarantine, social isolation, etc. on individuals such as anxiety, depression, and psychological distress. In a study including 1912 individuals with quarantine experience in the SARS outbreak that occurred in Canada in 2003, the most frequently reported mental reactions were boredom, isolation, frustration, discomfort, anxiety, loneliness, and fear, respectively [16]. According to the results of the study conducted by Xiato et al. on individuals who were self-isolated for 14 days due to the COVID-19 pandemic, anxiety levels were positively correlated with the levels of stress experienced and negatively correlated with the quality of sleep [17]. The results of a study conducted in Turkey including 343 individuals in the COVID-19 pandemic showed that the rate of anxiety was 45.1% and the rate of depression was 23.6% [18]. According to the results of our study, the DASS-D and DASS-A subscale scores were not found to be very high, and the DASS-S subscale score and K10-PSS scale score supported the participants' psychological distress.

Studies in the literature have reported that psychological distress is common during the pandemic period and that the individual is also concerned about his/her own future [19]. Psychological distress, depression, and anxiety have been reported to be relatively more common in females compared to males. In terms of gender differences, psychological distress due to COVID-19 and an individual's concerns about their own future have been confirmed for depression and anxiety, while the condition associated with gambling has been reported to be more common in males. However, the increase in the frequency of gambling has also been reported to be independent of anxiety, depression, and psychological stress caused by COVID-19 [19, 20]. Pathological gambling is more common in males in the general population, although gender differences in prevalence may have further narrowed in the past few years [21, 22]. A study by Hakansson on athletes during the COVID-19 period reported that gambling problems were clearly more common in males, and females did not even have moderate risk or problem gambling issues [23]. Similar to the literature, our study found that male participants had higher rates of gambling habits than female participants. However, there was no statistically significant correlation between gambling scale score and depression anxiety stress scale and psychological distress scale scores.

Recent studies have shown that changes in gambling behavior during the COVID-19 pandemic are likely to be limited in the current environment. Accordingly, an increase in gambling has been reported among those who respond to the general web survey, compared to those who report a decrease during the pandemic [24]. However, this increase has been found to be significantly higher for individuals who convert their general gambling behavior from almost nonexistent sports gambling into other forms of gambling [24]. In our study, similar to the literature, there was a significant increase in the number of individuals who have gambled at least once in a lifetime during the social isolation period, those who have gambled at least once in the last 1 month, and especially those who have purchased cryptocurrency (Bitcoin, Litecoin, Ripple, etc.). In addition, the total gambling scale score was found to be statistically significantly higher in male participants who have gambled at least once in their lifetime than females and in those who have not previously admitted to psychiatry than those who have admitted. Gambling during the crisis has also been significantly associated with increased alcohol use [24]. In our study, the frequency of alcohol use was increased in 10.8% of the participants during the pandemic period. Therefore, the current results suggest that there are individuals with a previously known increased risk of gambling compared to the general population, especially males who have increased their gambling behavior in response to a general pandemic such as COVID-19. These results point to the importance of emphasizing the debate about problem gambling and gambling attitudes, especially in males. Besides that, according to the scale scores,

our study found no correlation between psychological stress and gambling during the pandemic period, and this result may be related to the nonhomogeneous distribution of the sample. In our study, which supports the assumption that spending more time at home due to the pandemic process and the social isolation measures taken may cause an increase in internet and social media use, it was found that the participants had increased use of social media. Although there was a numerical increase in gambling with this increase, there was no statistically significant correlation. This result does not fully support our assumption that there may be an increase in online gambling secondary to the increased use of social media. Our results should be supported by studies with a homogeneous distribution of the participants.

Limitations of the Study

Our study has some limitations. First, the participants were not homogeneously distributed and the majority of them were living in metropolitan areas. Another limitation was that the study was single-centered and consisted of a limited number of participants. The reason for our insignificant results may be due to the limited number of participants or the fact that a certain professional group constituted the majority. The strengths of our study include the fact that it evaluated a timely and new area of research during the ongoing restriction situations caused by the COVID-19 pandemic. In addition, conducting studies on gambling in different professional groups can be considered a relatively new area of research.

Conclusion

The results of our study presented a cross-sectional view. In conclusion, it was shown that social isolation measures taken during the pandemic period could increase the psychological distress of individuals and that gambling behavior may increase in males, those who have previously purchased cryptocurrency, and those who have gambled at least once in their lives. We think that studies should be conducted on individuals with larger participation, focusing on pandemic and quarantine, especially to prevent gambling in males and the potential economic destruction and psychiatric disorders that it will bring about.

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